REMARKS / ARGUMENTS

Claims 1-23 are presently pending in the application. Applicant has amended claims 1, 6, 7, 11, 14-16 and 21-23, cancelled claims 3, 13 and 18 and added new claim 24 herein. Applicant respectfully requests reconsideration of the claims based on the following remarks.

Support for the claim amendments can be found in the specification, original claims, and figures. Accordingly, applicant submits that no new matter has been introduced by claim amendments.

Claims 1-23 were rejected under 35 U.S.C. 103(a) based on Susil et al. (WO02/22015 hereinafter "Susil" in view of Onik (U.S. Patent No. 4,583,538).

Referring to independent claim 1 as amended, the claim recites in part:
"...determining a first trajectory path based on the skin entry position and the target position in a digital image coordinate system associated with the plurality of digital images;

determining a second trajectory path in the robot coordinate system based on the first trajectory path and at least one transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in the robot coordinate system...;

moving the end effector along the second trajectory path toward the target position when a difference between the monitored respiratory state and the predetermined respiratory state is less than or equal to a threshold value and stopping movement of the end effector when the difference between the monitored respiratory state and the predetermined respiratory state is not less than or equal to the threshold value."

Referring to Susil, the reference is directed to a system for image guided surgical interventions. Further, referring to Onik, the reference is directed to an apparatus for placement of probes in the body. After carefully reviewing the references, applicant respectfully submits that the references, alone or in combination, do not teach: "determining a first trajectory path based on the skin entry position and the target position in a digital image coordinate system associated with the plurality of digital images; and determining a second trajectory path in the robot coordinate system based on the first trajectory path and at least one transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in the robot coordinate system.", as recited in claim 1 as amended.

Further, neither reference, alone or in combination, provides any teaching of: "moving the end effector along the second trajectory path toward the target position when a difference between the monitored respiratory state and the predetermined respiratory state is less than or equal to a threshold value and stopping movement of the end effector when the difference between the monitored respiratory state and the predetermined respiratory state is not less than or equal to the threshold value", as recited in independent claim 1 as amended.

Accordingly, because the combination of Susil and Onik does not teach each and every limitation of independent claim 1 as amended, applicant submits that claim 1 and claims 2, 4 and 5 which depend from claim 1, are allowable over these references.

Referring to independent claim 6 as amended, the claim recites in part:

"an infrared respiratory monitoring device for monitoring a respiratory state of the person to obtain a monitored respiratory state;

... the second computer further configured to determine a first trajectory path based on the skin entry position and the target position in the digital image coordinate system, the second computer further configured to determine a second trajectory path in the robot coordinate system based on the first trajectory path and at least one transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in the robot coordinate system; and

an end effector insertion device having the end effector adapted to be inserted into the person, the second computer inducing the end effector insertion device to move the end effector along the second trajectory path toward the target position when a difference between the monitored respiratory state and the predetermined respiratory state is less than or equal to a threshold value and to stop movement of the end effector when the difference between the monitored respiratory state and the predetermined respiratory state is not less than or equal to the threshold value."

After carefully reviewing Susil and Onik, applicant respectfully submits that the references, alone or in combination, do not teach: "an infrared respiratory monitoring device for monitoring a respiratory state of the person to obtain a monitored respiratory state", as recited in claim 6. Further, the references do not teach: "the second computer further configured to <u>determine a first trajectory path</u> based on the skin entry position and the target position <u>in the digital image coordinate system</u>, the second computer further configured to <u>determine a second trajectory path in the robot coordinate system</u> based on the first trajectory path and at least one transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in the robot coordinate system", as recited in claim 6 as amended. Further, the references do not teach: "the second computer inducing the end effector insertion device to <u>move the end effector</u> <u>along the second trajectory path toward the target position when a difference between the</u>

monitored respiratory state and the predetermined respiratory state is less than or equal to a threshold value and to stop movement of the end effector when the difference between the monitored respiratory state and the predetermined respiratory state is not less than or equal to the threshold value", as recited in claim 6 as amended.

Accordingly, because the combination of Susil and Onik does not teach each and every limitation of independent claim 6 as amended, and claims 7-12 and 14 which depend from claim 6, applicant submits that claims 6-12 and 14, are allowable over these references.

Referring to claim 15 as amended, the claim recites in part:

an infrared respiratory monitoring device for monitoring a respiratory state of the person to obtain a monitored respiratory state;

...the first computer further configured to determine a first trajectory path based on the skin entry position and the target position in the digital image coordinate system, the first computer further configured to determine a second trajectory path in the robot coordinate system based on the first trajectory path and at least one transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in the robot coordinate system; and

... the first computer inducing the end effector insertion device to move the end effector along the second trajectory path toward the target position when a difference between the monitored respiratory state and the predetermined respiratory state is less than or equal to a threshold value and to stop movement of the end effector when the difference between the monitored respiratory state and the predetermined respiratory state is not less than or equal to the threshold value.

After carefully reviewing Susil and Onik, applicant respectfully submits that the references, alone or in combination, do not teach: "an infrared respiratory monitoring device for monitoring a respiratory state of the person to obtain a monitored respiratory

state", as recited in claim 15 as amended. Further, the references do not teach: "the first computer further configured to determine a first trajectory path based on the skin entry position and the target position in the digital image coordinate system, the first computer further configured to determine a second trajectory path in the robot coordinate system based on the first trajectory path and at least one transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in the robot coordinate system", as recited in claim 15 as amended. Further, the references do not teach: "the first computer inducing the end effector insertion device to move the end effector along the second trajectory path toward the target position when a difference between the monitored respiratory state and the predetermined respiratory state is less than or equal to a threshold value and to stop movement of the end effector when the difference between the monitored respiratory state and the predetermined respiratory state is not less than or equal to the threshold value", as recited in claim 15 as amended.

Accordingly, because the combination of Susil and Onik does not teach each and every limitation of independent claim 15 as amended, applicant submits that claim 15 is allowable over these references.

Referring to independent claim 16 as amended, the claim recites in part:

"code for determining a first trajectory path based on the skin entry position and the target position in the digital image coordinate system;

code for determining a second trajectory path in the robot coordinate system based on the first trajectory path and at least one transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in the robot coordinate system;

...code for moving the end effector along the second trajectory path in the robot coordinate system toward the target position when a difference between the monitored respiratory sate and the predetermined respiratory state is less than or equal to a threshold value; and

code for stopping movement of the end effector when the difference between the monitored respiratory sate and the predetermined respiratory state is not less than or equal to the threshold value."

After carefully reviewing Susil and Onik, applicant respectfully submits that the references, alone or in combination, do not teach: "code for determining a first trajectory path based on the skin entry position and the target position in the digital image coordinate system; and code for determining a second trajectory path in the robot coordinate system based on the first trajectory path and at least one transformation matrix for transforming coordinates in the digital image coordinate system to coordinates in the robot coordinate system", as recited in claim 16 as amended. Further, the references do not teach: "code for moving the end effector along the second trajectory path in the robot coordinate system toward the target position when a difference between the monitored respiratory sate and the predetermined respiratory state is less than or equal to a threshold value", as recited in claim 16 as amended. Further, the references do not teach: "code for stopping movement of the end effector when the difference between the monitored respiratory sate and the predetermined respiratory state is not less than or equal to the threshold value", as recited in claim 16 as amended.

Accordingly, because the combination of Susil and Onik does not teach each and every limitation of independent claim 16 as amended, and claims 17, 19 and 20 which depend from claim 16, applicant submits that claims 16, 17, 19 and 20 are allowable over these references.

Referring to independent claim 21, as amended, the claim recites in part:
"determining a second trajectory path in the robot coordinate system by transforming a first trajectory path in the digital image coordinate system via coordinate transformation; and

moving the end effector along the second trajectory path in the robot coordinate system toward the target position in the person when the person has substantially a predetermined respiratory state and stopping movement of the end effector when the person does not have substantially the predetermined respiratory state."

After carefully reviewing Susil and Onik, applicant respectfully submits that the references, alone or in combination, do not teach: "determining a second trajectory path in the robot coordinate system by transforming a first trajectory path in the digital image coordinate system via coordinate transformation", as recited in claim 21 as amended. Further, the references do not teach: "moving the end effector along the second trajectory path in the robot coordinate system toward the target position in the person when the person has substantially a predetermined respiratory state and stopping movement of the end effector when the person does not have substantially the predetermined respiratory state", as recited in claim 21 as amended.

Accordingly, because the combination of Susil and Onik does not teach each and every limitation of independent claim 21 as amended, applicant submits that claim 21 and claims 22 and 23 which depend from claim 21 are allowable over these references.
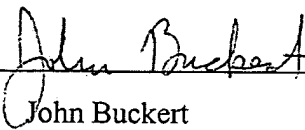
Applicant has added new claim 24 herein. Support for claim 24 is found in the specification, figures, and original claims. Accordingly, applicant submits that no new matter has been introduced by claim 24.

In light of the foregoing remarks and amendments, Applicant submits that the claims are now in condition for allowance. Such action is therefore respectfully requested. If a communication with Applicant's Attorneys would assist in advancing this case to allowance, the Examiner is cordially invited to contact the undersigned so that any

such issues may be promptly resolved. The Commissioner is hereby authorized to charge
any additional fees that may be required for this amendment, or credit any overpayment,
to Deposit Account No. 07-0845.

Respectfully submitted,

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